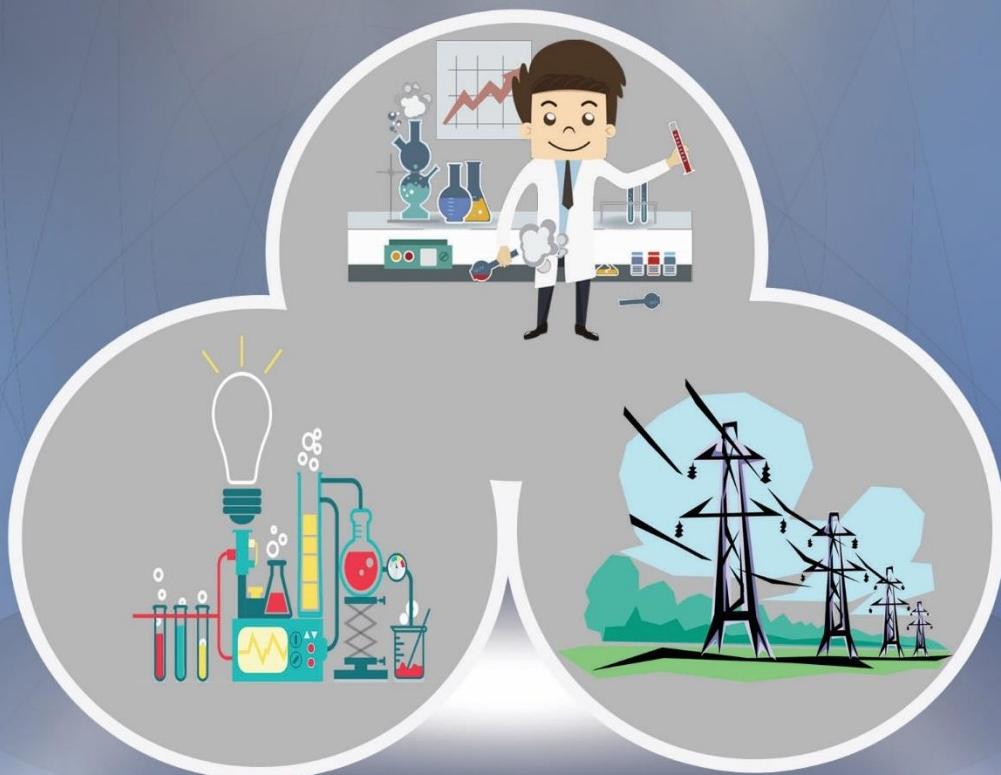


Mr. science channel

Grade 4

Final revision

Mr. sheriff Hawary



Final revision



Choose the correct answer:

1- Solar cars.....

- a. cause climate changes
- b. need charging
- c. **are light in weight**
- d. are heavy in weight

2- Mechanical engineers designed a vehicle that operates by... energy.

- a. Heat
- b. sound
- C. solar**
- d. Kinetic

3-.... is used to knock down parts of a building.

- a. Winch
- b. Crane
- c. Truck
- d. Wrecking ball**

4-In cricket games, the speed of the ball..... When the player hits it.

- a. increases in the same direction
- b. decreases in the same direction
- c. increases in the opposite direction
- d. decreases in the opposite direction**

5-Light objects always have kinetic energy.

- a. **Low**
- b. high
- c. moderate
- d. no correct answer

6-Light objects cause damageheavy objects

- a. more than
- b. less than**
- c. equal to
- d. no correct answer

7- A train has kinetic energy the car.

- a. more than**
- b. less than
- c. equal to
- d. no correct answer

8-In cricket games, when the player hits the ball,

- a. energy transfers from the ball to the bat
- b. energy transfers from the bat to the ball**
- c. the speed of the ball increases in the same direction
- d. the speed of the ball decreases in the opposite direction





9-Fast objects cause.....

- a. great damage that can be repaired
- b. great damage that can't be repaired
- c. small damage that can be repaired
- d. small damage that can't be repaired

10-The effect of collision if two cars were in opposite directions.

- a. increases
- b. Decreases
- c. remains constant
- d. no correct answer

11-During collision, kinetic energy

- a. transfers from the slow object to the fast object
- b.transfers from the fast object to the slow object
- c. is destroyed and lost in the air
- d. changes into potential energy

12-The effect of collision increases by.....the speed of the moving object.

- a. Increasing
- b.decreasing
- c. keeping
- d. no correct answer

4-When a..... hits a person, he may be injured only and survive

- a. Train
- b. Truck
- c. car
- d. Bike

13-When a car uses brakes to decrease its speed, its kinetic energy.

- a. Increases
- b. Decreases
- c. doesn't change
- d. no correct answer

14-The ball stores potential energy when.....

- a. the ball is raised up
- b. you leave the ball
- c. the ball hits the 1st other ball
- d. no correct answer

15- The potential energy is converted gradually to kinetic energy when

- a. the ball is raised up
- b. you leave the ball
- c. the ball hits the 1st other ball
- d. no correct answer



16-When the ball of Newton's pendulum hits the 1st other ball,

a. kinetic energy transfers only to the 1st other ball

b. kinetic energy transfers to all the other balls

c. kinetic energy is destroyed and lost in the air

d. all kinetic energy is converted into sound energy

17- A/An is operated by electricity.

a. TV b. electric heater c. radio d. **all the following**

18- The ... changes electric energy into heat energy.

a. electric iron b.radio C.TV d. cellular phone

19- The..... changes electric energy into light and sound energies.

a. cellular phone b. TV C. radio d. **a &b**

20-Any energy chain with the Sun.

a.ends b. stops **C. starts** d.no correct answer

21-The main source of energy in all devices is the.....

a. Sun b.wind c. water falls d.coal

22- The..... is used to obtain electricity.

A.dynamo b.motor c.hair dryer d.electric heater

23- Toy cars change.....energy into kinetic energy.

a. Sound b. heat **c. elastic potential** d. electric

24-..... energy due to the friction between the and the road.

a. **Heat** b. sound c. light d. potential

25- Which of the following statements is correct?

a. Energy can't be changed from one form to another.

b. Energy can be changed from one form to another.

c. Energy may be lost or destroyed.

d. Energy can be created.

26- The function of a hair dryer is.....

a, air movement b. motor sound

c. drying hair d. no correct answers

27-The output energy in the hair dryer is.... energy.

a. Light b. electric c. data processing

d. heat





28-The mobile phone

- a. consume a small amount of energy in a short time
- b. consume a small amount of energy in a long time
- c. consume a large amount of energy in a short time
- d. consume a large amount of energy in a long time

29-design solutions for the mobile screen to obtain light energy.

- a. Ecologists b. Engineers c. Designers d. No correct answer

30- Fossil fuel is extracted from ...

- A.mountains b.forests c.rivers d.underground

31- The wheels of the car rotate when the fuel inside the car

- a.runs out b.ends c. burns d.no correct answer

32- is (are) example (s) of fossil fuel.

- a. Petroleum b. Coal c. Natural gas d. All the following

33- is an example of biofuel.

- a. Petroleum b. Coal c. Corn d. Natural gas

34-All the following are renewable sources of energy, except

- A.corn c. petroleum b.wood d.grass

35- is (are) burnt and producing high heat energy.

- a. Petroleum b. Natural gas c. Coal d. All the previous .

36-Petroleum is form resource of energy

- a. permanent b. renewable c . non renewable d. No correct answer

37-The amount of. is limited on Earth.

- a. Biofuel b. fossil fuel c. a&b d. no correct answer

38-is the energy that run out faster than us consuming it.

- a. Renewable source of energy c. Permanent source of energy d. Solar energy

39-. Coal is the source of energy in a.....

- a. gas oven b. fireplace c. petroleum oven d. solar heater

40- Sun is very important because

- a. it provides us with heat energy
- b. it provides us with light energy
- c. plants need it to grow up
- d. all the previous





41-To warm our houses, we must place a ...

- a. large window on the wall facing the sun
- b. large window on the wall not facing the sun
- C. small window on the wall facing the sun
- d. small window on the wall not facing the sun

42-Solar energy causes

- a. air movements b. wind blowing c. a&b d. no correct answer
- d. No correct answer.

43-The correct arrangement for generating electricity by using wind energy is

- a. Sun - wind - electric lines - windmills - houses
- b. Sun - wind - windmills - electric lines - houses
- c. Sun - windmills - electric lines - wind - houses
- d. Sun - windmills - wind - electric lines - houses

44 -Potential energy is converted gradually into kinetic energy when

- a. dam stops the water
- b. dam allows water to pass
- c. water falls from a high slope
- d.b&c

46- two balls of mass 10 kg and 5 kg , which reaches the ground first.....

- a. the 10 kg ball than 5 kg
- b. the 5 kg ball than 10 kg
- c. the two balls reaches together
- d. no correct answer



2-Put (✓) or (✗):

- 1-The amount of energy we get from the sun is more than the we get from fuel or electricity.(✓)
- 2- Electric cars cause climate changes. .(✗)
- 3- In cricket games, the speed of the ball increases when the player hits it. .(✓)
- 4-Fast objects cause damage less than slow objects. (✗)
- 5) When the player hits the ball, energy transfers from the ball to the bat. .(✗)
- 6-Collision between moving objects produces kinetic energy only. .(✗)
- 7- The effect of collision depends on the speed of the moving objects only. (✓)
- 8-The effect of collision increases if the two cars crashed in the same direction.(✓)
- 9- Fast and heavy objects always cause more damage.(✓)
- 10 When a bike hits a boy, he will survive.(✓)
- 11-The relationship between the mass of the object and the kinetic energy is an indirect relationship. .(✗)
- 12- Electric lamps consume electric energy. .(✓)
- 13-Robots obtain electricity from solar panels and electric chargers.(✓)
- 14-Electric lamps convert electric energy to light energy. .(✓)
- 15-Energy can be changed from one form to another. .(✓)
- 16-Energy is always saved and not destroyed. .(✓)
- 17- Kinetic energy is produced in the hair dryer. .(✓)
- 18-The mobile phone consume a small amount of energy in a long.(✓)
- 19-Air movement is the function of the hair dryer. .(✓)
- 20-The chemical structure of water and petroleum is different.(✓)
- 21- We must light up electric bulbs and electric devices if we don't need them.(✓)
- 22-Waterfalls are from the renewable source of enenrgy .(✓)
- 23-Flashlight depend on non-renewable source of energy (✗)
- 24- The surface of the Sun is solid as the Moon. ✗
- 25-A solar heater is always placed at the top of buildings ✓
- 26-wind rotates the blades of windmills ✓
- 27-When dams stop water, the kinetic energy of water reaches its maximum value. (✗)



28- A dynamo changes potential energy to kinetic energy. .(X)

3-Fill in the gaps using the following :-

(Solar cars , electric cars , Fuel-powered cars , more , light , heavy , less)

1, **Fuel-powered cars** need gas stations, while **electric cars**. need to be charge

2 **Solar cars** don't need fuel or electricity.

3-Solar cars are **less** in weight.

4 The amount of energy we get from the sun is **more**.the energy we get from fuel.

4- Fill in the gaps using the following words:

(forward - backward - same - opposite - more - less - plastic-, nylon)

1-Light objects cause damage **less**.than heavy object .

2-Fast objects cause damage.....than light object

3- When the player hits the ball, it moves in the **opposite** direct.

4-The seatbelt keeps the body of the driver from moving **forward** during collision.

6 The air bag is made up of **nylon** material folded inside the steering wheel.

5-Fill In the gaps using the following words:

(Coal - heat - chemical - consumes - produces -Wind - taller - shorter)

1- **Wind** is from renewable sources of energy.

2-The input energy in a battery is **chemical** energy.

3- The modern windmill is **taller** than the old windmills.

4- **Coal** is used in the fireplace to produce heat energy.

5- A solar heater **produces** heat energy.

6 -Fill in the gaps using the following words:

(electric - heat - chemical - consumed -produced - TV - Solar cells)

1- **Solar cells** produce electric energy.

2-The... **TV**..produces sound energy.

3- Solar energy is the energy **consumed**.in solar cells.

4-Electric energy is the energy **produced** in solar cells.

5-Electric irons consume **electric** energy and produce energy.

6-The devices contain batteries that contain- **chemical** energy



7-Write the scientific :-

- 1-A safety equipment keeping the body of the driver from moving forward during collision. (**safety belt**)
- 2- A safety equipment made of a thin nylon material folded into the steering wheel. (**air bag**)
- 3-A device that changes electric energy into sound energy(...**radio**.....)
- 4-A heavy steel ball swinging on a cable. (**Wrecking ball**)
- 5-A device that changes electric energy into heat energy. (electric heater)
- 6-The main source of energy. (sun .)
- 7-A heavy steel ball swinging on a cable. (**Wrecking ball**)
- 8-A device used to generate electricity(**dynamo**.)
- 9-Energy is neither created nor destroyed. (**law of conservation of energy** .)
- 10-The energy produced due to friction. (**heat energy**)
- 11-A type of energy produced from the electric fan (**kinetic energy**).
- 12-it is made up of grass ,cron or wood chips .(**biofuel**)
- 13-They study the flow of energy in difficult ecosystems.(**energy chain**)
- 14-A Biofuel that made up of wood .(.....)
- 15-A device at which wind rotates its blades and it produces kinetic energy(**wind mills**)
- 16-The device which changes kinetic energy into electric energy. (**dynamo**)
- 17-It is the energy that will not run out faster than us consuming it(**renewable source**)
- 18-It is a gas region at the edge of the sun that emits light and heat(.....)
- 19-It warms the earth and the wind. (**sun** ..)
- 20- It changes the electric energy into kinetic energy. (**electric motor**).

8-Study the figure ,then answer the following questions :-

1-From the following figure:

- a. Which object has the lowest energy and why? **Small car – because it has smaller mass**
- b. Which object causes more damage? **Big car**



9-The following figure represents a calculator:

- The input energy is chemical energy
- It contains battery provided and small solar cell



10-The following figure represents two plants:

- Which figure represents the plant in the absence of the sun?

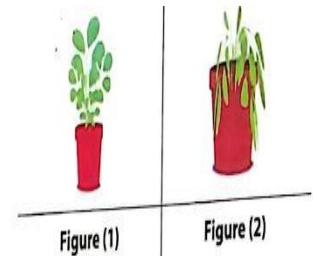
Fig.2

- What happens to the animals in the absence of the sun?

They cant find food for continuity of their life

- What is the importance of the sun?

Sun is the main source of energy



11- The following figure represents a solar oven:

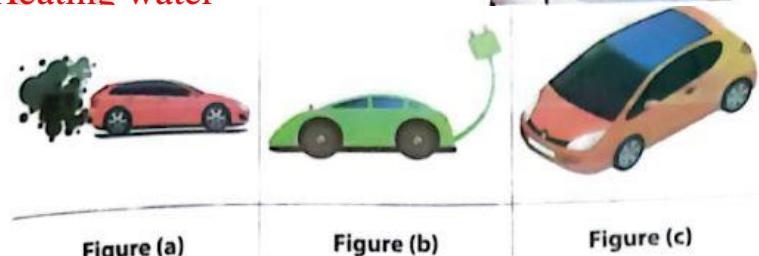
- What type of mirrors are used In this device? Curved mirror “concave”

- What is the importance of this device? Heating water



12- Label the previous figures.

- fuel car.
- electric car
- solar car



2-Which car(s) cause(s) climate changes? Car A

3- Which car(s) does/do not cause climate changes? Car C

4-Which car does not need fuel or charging? Car C

5-What are the disadvantages of car A? causes air pollution

13- From the following figure, complete the following sentences.

- The boy uses a bat to hit the ball,
- Energy transfers from potential the to the kinetic energy
- When the boy hits the ball, the speed increase in the opposite direction..



14- Which figure represents more severe damage and damage and why



Figure (2)



Figure (1)

15- The following figure represents

a-saftey belt , that is used in cars to keep the driver's body from moving during collision.

16-Complete the following:

- 1.- Devices use . batteries as a source of energy.
- 2-Cellular phones change chemical energy into sound and ..light . energies.
- 3- Batteries store chemical energy that is used to operate
- 4-During running, the chemical energy stored in the human body changes to kinetic..... energy.
- 5- sound and light energies are resulted in a mobile phone.
- 6-Electric energy is the input.....energy in mobile phones and hair dryers.
- 7-The wheels of the car...Move.. when the fuel burn inside the car engine
- 8- the car stop, when fuel consumed
- 9- Vehicles on Mars change solar energy into electric and Kinetic energies to operate the sensors. to move on Mars.
- 10-oil and coal are examples of fossil fuel.
- 11-Bio fuel is a nonrenewable source of energy.
- 12-Water is considered as a renewable source of energy.
- 13-The amount of fossil fuel is decrease on Earth. .
- 14-Burning of fossil fuel causes air pollution and global warming
- 15-steamstarts to move the turbines in electric power station.
- 16- renewable source is the energy that will not run out fast as consuming it.
- 17- Any device needs energy to move



18-Sun consists of different gases, such as **hydrogen** and **helium**

19 -A solar panel consists of a large number of **solar cells**

20-The input energy of a dynamo is **kinetic** energy

17) Correct the underlined words:

1-The distance between Earth and Mars is 45 million km.

.....**54**.....

2- It is possible to get use of any device without the Sun

.....**impossible**.....

4-Petroleum is an example of biofuel.

.....**Fossil fuels**

5-Coal is produced from the decomposition of marine remain .

.....**oil**

6-Corn is non-renewable source of energy .

.....**oil - coal – natural gas**.....

7- Charcoal is made up of grass, corn or wood chips.

.....**liquid fuel**

8-Burning fuel produces light energy.

.....**heat**

18- What is the importance of:

1-Fossil fuel...**source of energy to operate cars...**

2-Solar energy...**produce electric energy**

3-Fuel...**move cars**.....

4-Windmills **generate electricity**

5- The sun **the main source of energy on earth surface.**

6-Solar panels **produces electricity**

19-Give an example for:

1-Non-renewable source of energy...**water – sun – wind**

2-A device that depends on a non-renewable source of energy **cars - oven**

20-What will happen when:

1-The sun disappears suddenly.

There is no life on earth surface





2-Water moves the blades of a watermill.

Turbines will rotate and generate electricity

3-Hydrogen reacts with helium in the Sun.

Produce large amount of energies heat and light

4-The wind rotates the blades of the turbine.

Generate electricity.

5-You look directly to the sun for a long time,

...harm the eye ...

6-The water of dams become free.

Potential energy will change to kinetic energy

7-We replace the light blades of turbines by heavy blades.

Cant move by wind and cant produce heat

8- Dams store the water of rivers.

Water will store a potential energy

21- These steps represent the generation of electricity in electric power stations. Arrange the following steps from the start to the end:

3 - Steam starts to move turbines.

1- The petroleum or natural gas burns and produces thermal energy.

5- Electricity transfers through huge wires to cities.

4- The dynamo converts kinetic energy in turbines into electric energy.

2- Thermal (heat) energy is used to heat water and produce steam

With my best wishes

Sherif hawary

